



Environment Element

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Environment Element

Discussion

The City plays many different roles in preserving, protecting and enhancing the natural and built environments. First, the City can lead by example, by running its operations in a more environmentally responsible manner.

Second, the City can act as an educator, promoting knowledge and awareness of personal choices and decisions' impacts on the environment.

Third, the City can act as an advocate in regional, state and national arenas to promote sound environmental protection.

Fourth, the City can act as a regulator, effectively implementing and enforcing appropriate legal or regulatory requirements, such as through land use and building codes.

Finally, the City can act as a catalyst for businesses and individuals to improve the environmental outcomes of their activities, by providing technical assistance and incentives for actions that contribute to the City's environmental goals.

Because this Plan identifies environmental stewardship as one of the City's core values, the goals and policies in the Land Use, Transportation, Utilities, Housing and Neighborhood Planning elements are at least partially directed at finding environmentally sustainable approaches to growth management in the topics they address. This Environmental Element augments the other elements of this plan by focusing on roles the City can play to protect the environment, beyond what it addresses in those other elements.

A. City Government Operations

Discussion

As a large employer and as a provider of a wide array of services, the City of Seattle has many opportunities to conduct its operations in an environmentally responsible and sustainable manner. For instance, in its day-to-day operations the City delivers power and water directly to consumers, provides fleet services to City employees and maintains parks for the enjoyment of many residents and visitors. In carrying out these operations, the City can make choices that favor improvements in air and water quality and noise levels, conserve resources, preserve and enhance wildlife habitat, and minimize greenhouse gas emissions. The following principles elaborate on this concept and describe how the City should conduct its business in compliance with environmental laws and regulations and in demonstrating improved environmental performance.

Goals

- EG1** Comply with regulations that govern protection of the environment.
- EG2** Reduce pollution at the source.
- EG3** Reduce consumption of resources.
- EG4** Continually improve the City's achievement of environmental goals.





Policies

- E1** In managing City government operations take reasonable steps to reduce impacts to the environment and ecosystems upon which we depend.
- E2** Strive to meet or exceed environmental targets that represent performance beyond regulatory compliance.
- E3** Consider the environmental and economic costs, risks, benefits, and impact, from a life cycle perspective (including suppliers' commitment to product stewardship and pollution prevention), when making planning, contracting, purchasing, and operating decisions.
- E4** Explore options to provide incentives to companies and facilities locating in Seattle and recognize existing companies and facilities that follow effective pollution prevention and product stewardship practices.
- E5** Seek to minimize the quantity and toxicity of materials used and waste generated from City facilities and operations through source reduction, reuse, and recycling.
- E6** Strive to design, construct, and operate City facilities to limit environmental impacts, such as by incorporating energy efficiency, water conservation, waste minimization, pollution prevention, or resource-efficient materials throughout a facility's life.
- E7** Seek the commitment of all employees to environmental stewardship through communication, training, and support for employee leadership.
- E8** Involve Seattle citizens in improving environmental performance in City operations. Report to the public on the City's environmental goals and achievements and seek citizen input on ways to improve environmental performance.
- E9** Strive for cooperative relationships with regulatory agencies and tribal governments to promote environmental stewardship.
- E10** Use, where feasible, new technologies that demonstrate ways to reduce environmental impacts.





B. Air Quality

Discussion

Gasoline and diesel-powered vehicles and equipment are the largest source of air pollution in Seattle. Air pollution also contributes to water pollution when it rains and rainwater runs off into water bodies. The City can take a lead role in encouraging other modes of transport by using more efficient vehicles and alternative-fueled vehicles in its own fleet and by promoting transit use among its employees with transit subsidies and restrictive parking policies. While the City is not the regulator of automobile emissions, the City can encourage alternatives to gasoline powered automobile transportation by promoting improvements to the public transit system, increasing incentives for car-pooling, bicycling and walking, and by limiting the amount of parking that may be included in some new developments. The City can advocate with King County/Metro and Sound Transit in designing public transportation systems and stations that help maximize the use of such systems.

Goals

EG5 Strive to reduce air pollution from all sources, including transportation, wood burning and industrial activities through appropriate land use and transportation policies.

Policies

E11 Support regional growth management activities that help reduce the need for automobile transportation and related air pollution.

- E12** Promote clean-burning, alternative-fueled vehicles for use by large fleet operators, transit operators, and the public as a way of reducing impacts on air quality.
- E13** Cooperate with local and state agencies to identify, regulate, and mitigate air pollution from industrial sources and area sources such as woodburning, construction dust and road dust.
- E14** Seek options for eliminating the purchase of fossil-fuel burning sources of electric power by City Light, such as through purchase of wind or geothermally produced power or using conservation strategies.
- E15** Strive to ensure beneficial indoor environmental quality (which can increase health, welfare and productivity of workers or residents) in all renovations and new construction of City-owned facilities and promote design conditions that enhance beneficial indoor environmental quality in private construction.





C. Water Quality

Discussion

Seattle has an apparent abundance of water – large and small lakes, creeks, waterways and Puget Sound. Human activity in and near these waterbodies can affect the quality of the water. A variety of regulations and physical improvements have been put in place to limit negative impacts on water quality. Sources of water pollution that the City can have some impact on include stormwater from several non-point sources -- automobile emissions, animal waste, rooftops, chemicals and sediment from landscaping and lawns, construction and industrial site run-off, and smaller discharges into storm drains, including their use for improper disposal of used oil and chemicals.

Two-thirds of Seattle's *stormwater* drains directly into the nearest creek, lake, or bay (City of Seattle Stormwater Management Program, 1997). The other third goes into the wastewater collection and disposal system, where it is mixed with sewage and either goes to one of four treatment plants (and then into Puget Sound), or is discharged during overflow capacity rainfall events directly into surface waters (called combined sewer overflows or CSOs)

Most of the *sewage* in Seattle is piped from households, businesses and industrial facilities to the treatment plant at West Point where it is treated and released into Puget Sound. That treatment plant is maintained by King County, and the discharge from the plant is regulated under a state-issued National Pollutant Discharge Elimination System (NPDES) permit. In some parts of the city, sewage is carried in the same pipes that carry stormwater runoff, and during periods of rainfall when the system's capacity is overloaded, certain of these pipes

discharge directly into receiving waters without treatment at West Point or another facility.

Goals

- EG6** Work to maintain or improve water quality, through appropriate land use and transportation policies.
- EG7** Reduce transportation-related water quality degradation by promoting less polluting transportation alternatives.
- EG8** Strive to increase the amount of total pervious surface and vegetative cover in the city, to promote groundwater replenishment where desirable and decrease surface water runoff and the pollution it collects from roads, rooftops and sidewalks.
- EG9** Promote policies to reduce water quality degradation from landscaping, animal waste, construction, and industrial sites.
- EG10** Strive to minimize the number and extent of combined sewer overflow events occurring annually in the City.

Policies

- E16** Support regional growth management activities that help reduce automobile use and other sources of water pollution.
- E17** Work regionally to improve programs and management strategies designed to prevent and reduce contamination of street runoff and stormwater from all sources.





- E18** Continue to work with King County and other appropriate agencies to make reasonable efforts to control CSO events and thereby reduce the untreated wastewater being released to surface waters.
- E19** Work with businesses and the community to provide education about the importance and methods of controlling the release of contaminants into storm drains.
- E20** Seek to limit the use of pesticides and herbicides on City-owned property, which can result in polluted stormwater run-off, and provide education and incentives for other land owners to do the same.
- E21** Cooperate and coordinate with state and federal agencies to the extent possible to minimize illegal discharges into water by both permitted and non-permitted sources.

D. Conservation of Resources

Discussion

Consumption of resources by Seattleites for food, recreation, work, building, and daily living has a significant impact on the environment both locally and around the world. One of the best ways to have a positive impact on the environment is to reduce consumption. The City has been a leader through its internal purchasing practices (such as double-sided copying machines which reduce paper use and reducing energy demand by practicing energy conservation in its buildings), as well as through its educational efforts with the public. City Government demand for recycled products, alternative sources of energy and other environmentally sustainable products also helps to increase the demand for these products, making their long-term success in the marketplace more achievable.

At the other end of the consumption chain, the City faces the need to dispose properly of millions of tons of packaging and products each year. The City's reuse and recycling programs ensure that many types of packaging can be reused or recycled, thus reducing the strain on natural systems caused by producing and disposing of more products.

In addition, as the population of the City and region grows we face increasing demands on water, energy and other resources. To continue to meet the energy and water needs of both the current and future population, the City will have to either lower demand through various conservation measures, or increase water and energy supply, or a combination of both. Benefits from energy conservation include reductions in greenhouse gas emissions, additional water in rivers for wildlife and other uses, and reduction in other types of pollution





generated by coal sources, which minimally supply the City from our regional electric grid. Indirect benefits of water conservation include energy savings, wastewater reductions, and enhanced wildlife habitat. Water conservation savings' potential is the greatest from residential use (toilets, showers, clothes washers, landscape and lawn watering). Similarly, if solid waste continues to increase as a percentage of the solid waste stream, the City will have to encourage decreased consumption, create and continue effective reuse and recycling programs, or, as a last resort, find new landfill space.

Goals

- EG11** Seek to maximize the efficiency of water use while assuring adequate supply during peak demand times.
- EG12** Seek to maximize the efficiency of energy use while assuring an adequate supply during peak demand times.
- EG13** Reduce unnecessary consumption of natural and manufactured resources for City operations, through the City's purchasing policies and employee actions.
- EG14** Enhance the reuse and recycling of product wastes through effective reuse and recycling policies and programs.

Policies

- E22** Promote water conservation through programs and projects for the City's residential, commercial and wholesale water customers.

- E23** In conjunction with water conservation measures, develop new water supply capacity as necessary to meet the City's water needs.
- E24** Promote energy conservation through programs and projects for residential, commercial, and wholesale City customers.
- E25** Lead by example in implementing energy and water conservation measures, including the use of renewable sources of energy, in City operations.
- E26** Use education, incentives and increased availability of recycling options to promote reuse and recycling of used or waste materials by residents, businesses and City employees.





E. Protection of Urban Forests and Wildlife Habitat

Goals

- EG15** Consistent with the overall goals of the Growth Management Act, support the preservation of regional habitat and bio-diversity with land use patterns that encourage growth within the city rather than in undeveloped areas.
- EG16** Where suitable habitat potential exists, work to maintain and enhance Seattle's urban forests and wildlife habitats and the plants and animals native to the region.
- EG17** Protect the habitat of native and migratory wildlife by encouraging open space conservation and beneficial habitat and providing for the growth of native species of trees and other native vegetation.
- EG18** Involve citizens, community groups, and nonprofit organizations in the care and enhancement of the urban forests and wildlife habitat.
- EG19** Strive to achieve a net increase of healthy, diverse tree cover throughout the city.
- EG20** Seek to protect and retain trees and groups of trees of significant historical, cultural, horticultural, environmental, and aesthetic value in order to enhance Seattle's character and protect Seattle's natural heritage.

Policies

- E27** On city property, both on-land and in-water, cultivate native ecosystems that encourage native wildlife and encourage replacement of invasive, non-native vegetation. Native ecosystems are more diverse and therefore more resilient to insects, disease, and climate changes.
- E28** Encourage the preservation and maintenance of existing natural habitat in areas on private property undergoing development, both on-land and in-water, and consider mitigation requirements if damage is unavoidable.
- E29** Strive to actively manage the forested areas within Seattle's parks, acquired open spaces, and rights-of-way as the first priority in urban forest maintenance and enhancement efforts.
- E30** On City property, protect selected trees, utilize proper pruning and tree care, and improve conditions in order to achieve long-term benefits from the urban forest and encourage private landowners to do the same.
- E31** Foster cooperation between City departments to address conflicting values regarding tree-related issues on City-owned properties and rights-of-way, and coordinate with other governments and agencies to promote the health of the urban forest ecosystem within the City of Seattle.





- E32** As feasible, when resolving infrastructure conflicts, fully consider the significant value of trees (as components of wildlife habitat, beneficial to open space enjoyment, stabilizers of soil, and mitigators of the greenhouse effect). Select and plant appropriate tree species on public rights-of-way that maximize planting benefits while protecting the safety of residents.
- E33** Maintain the health of natural habitats on private property through a combination of education, incentives and development review practices.
- E34** Encourage stewardship practices among Seattle's residents and City personnel through education, training, and continued volunteer participation in the care of Seattle's plant and wildlife habitats.
- E35** Recognize and work to expand public/private partnerships currently underway in the city to more effectively involve citizens and non-governmental organizations in the care and enhancement of habitat for native plants and wildlife.
- E36** Consider best available science in making decisions regarding habitat preservation and restoration efforts.

F. Reduction of Greenhouse Gas Emissions

Discussion

The City has adopted policies and implemented programs to address climate change caused by greenhouse gas emissions. Global climate change can have long-term varying climatic and economic effects on our region, including drought, flooding, and a decrease in stream flows with resulting impacts on homes and livelihoods. Automobile emissions are one of the greatest sources of greenhouse gases in our region. As Seattle's population has increased, the number of vehicle miles traveled has increased at a disproportionately higher rate, which means that each individual is driving more miles per day than ever before. Individual actions, including mode of transportation, vehicle selection and fuel choice, are very important in curbing greenhouse gas emissions.

Nationwide, the burning of fossil fuels to generate electricity is responsible for a large share of greenhouse gas emissions. Seattle's electric power is generated largely from hydro-electric dams. Depending on demand and generating capacity, City Light both sells hydro-electric power and purchases electricity generated from fossil-fuel powered sources. Electricity conservation in Seattle can reduce greenhouse gas emissions throughout the Western United States by making more hydro-generated electricity available and reducing demand for fossil-fuel generated electricity.





Goals

- EG21** Strive to reduce greenhouse gas emissions from all sources.

Policies

- E37** In meeting the demand for electric power, strive for no net increase in City contributions to greenhouse gas emissions by relying first on energy efficiency, second on renewable resources, and, when fossil fuel use is necessary, taking actions that offset the release of greenhouse gases such as planting trees or using alternative fuel vehicles.
- E38** Promote the use of alternative fuels in vehicles and equipment by the City, transit operators, fleet operators, and the public.
- E39** Work to reduce emissions of greenhouse gases from transportation by encouraging the use of non-automotive transportation by city employees and the public and measures that reduce vehicle miles traveled.
- E40** Assess and work to reduce the greenhouse gas emissions associated with the City's capital and operational decisions, such as construction and operation of buildings, fleet management and purchasing decisions.

G. Reduction of Noise Pollution

Discussion

In Seattle, the most commonly cited sources of noise pollution are airplanes, street and highway traffic, construction, street repair and trains. Other sources cited include car stereos, motorcycles, barking dogs, car and house alarms, sirens, loud parties, taverns, seaplanes, helicopters and motorboats. As we increase population density in our urban villages and change the patterns of use in some areas, controlling noise while still promoting a variety of activities and personal choices becomes more challenging. Planning and policies for land use, transportation and environmental protection should seek to reduce excessive noise.

Goals

- EG22** Improve the City's ability to respond to and control sources of noise pollution in Seattle and mitigate its impacts.
- EG23** Strive to reduce the overall level of ambient noise pollution in Seattle.

Policies

- E41** Promote actions, such as equipment modifications and operational limits, that reduce noise from transportation modes, construction sites, industrial uses, and commercial business establishments.





- E42** Promote actions, such as sound attenuating surfaces and reductions in traffic speed, by the City and other agencies that reduce the noise impacts of freeways and arterials within the city.
- E43** Work with appropriate agencies to reduce noise impacts from aviation within the City of Seattle.
- E44** Consider a mix of uses in urban developments and promote uses that reduce excessive noise and its effects on public health and safety in urban village areas.
- E45** In City operations, reduce or eliminate, where possible, the use of noise-polluting equipment and provide education and incentives for others to do the same.
- E46** Work with businesses and the community to provide education about the impacts of noise pollution on health and our quality of life.
- E47** Support the use of technologies and engineering practices to attenuate noise produced by traffic, aircraft, construction, and commercial and industrial facilities located near residential areas.

H. Additional Resources

Longfellow Creek Watershed Action Plan

Pipers Creek Watershed Action Plan

